UTAH DEPARTMENT *of*
ENVIRONMENTAL QUALITY
WATER
QUALITY

Water Quality Issues and Legislative Requests

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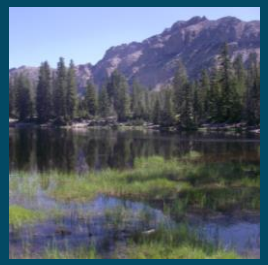
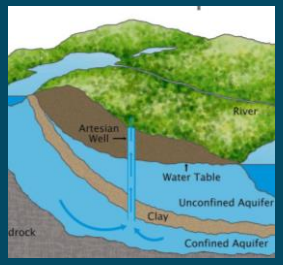
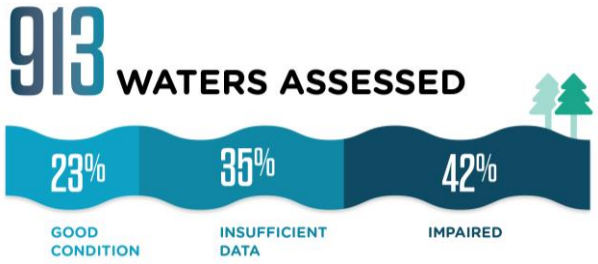
Mission

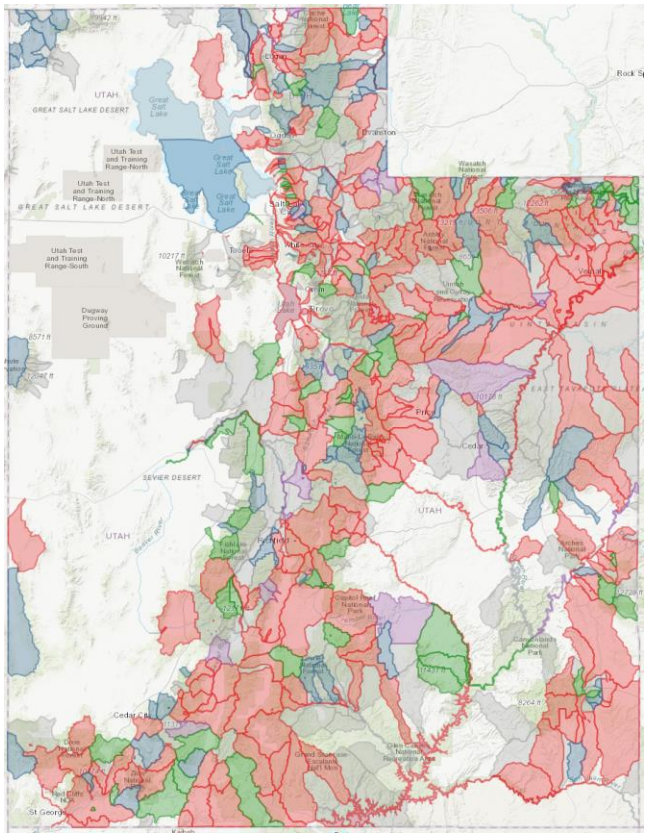
Safeguarding and enhancing Utah's waters through balanced regulation

Rivers and Streams	Lakes/Reservoirs	Wetlands	Ground Water
			
14,250 perennial miles 171,760 total miles	1,552,078 acres	510,359 acres	Extensive aquifer systems

Nearly half of Utah's Do Not Support Uses



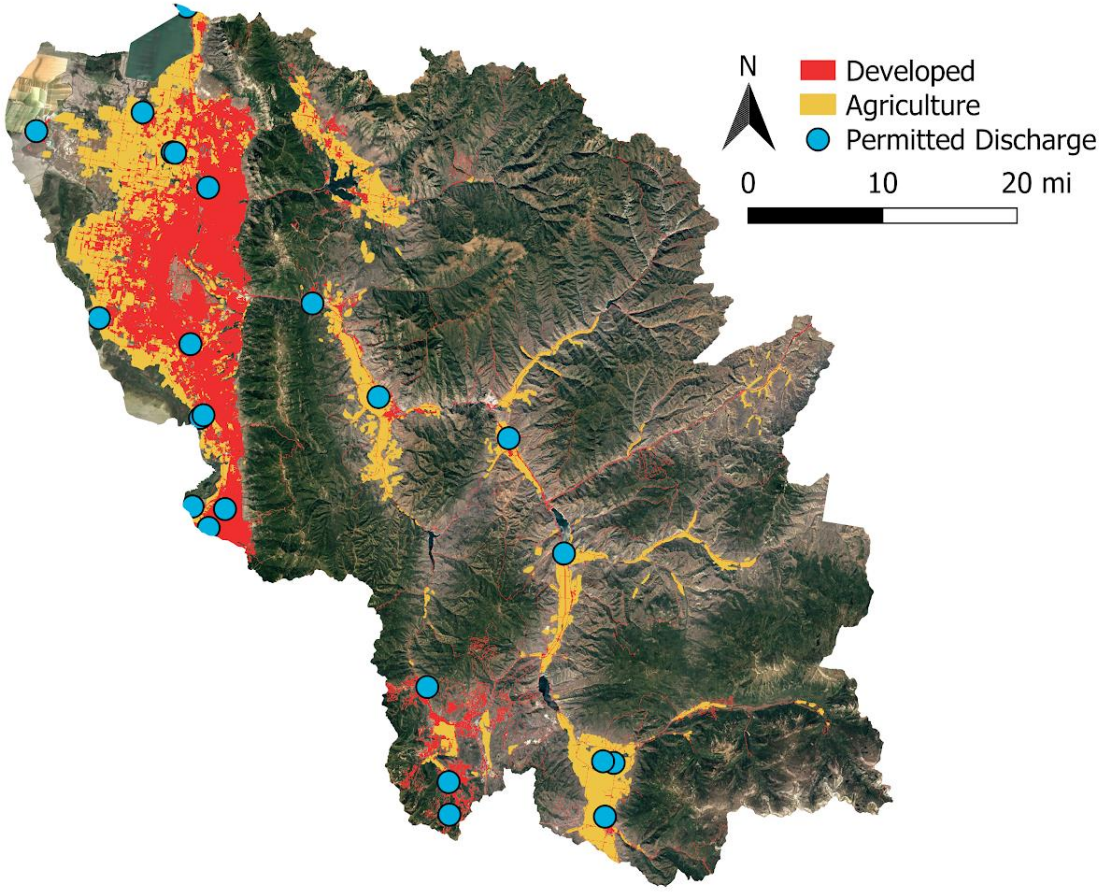
Drinking Water Sources (34 waters)	Blue-ribbon Fisheries (15 waters)
16 State Parks 2 National Parks	Agricultural Uses (1,820 stream miles)



Trends

Streams and lakes continue to be added to the impaired waters list.
Restoration efforts are insufficient to keep up with the degradation.

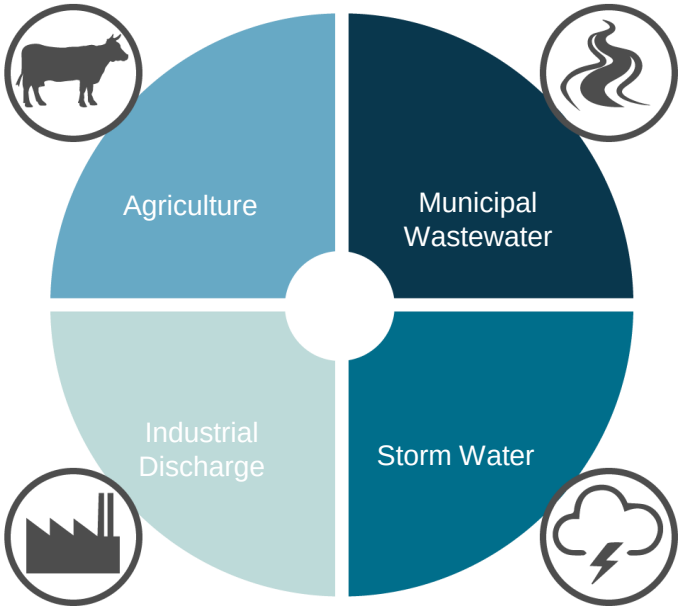
Everyone Contributes to Water Quality



New Programs and Initiatives

WATER BANKING

AGRICULTURAL VOLUNTARY INCENTIVE PROGRAM



WATER QUALITY TRADING

INFRASTRUCTURE FINANCING

LOW IMPACT DEVELOPMENT

NEW CONTAMINANTS AND THREATS

ILLICIT DISCHARGES

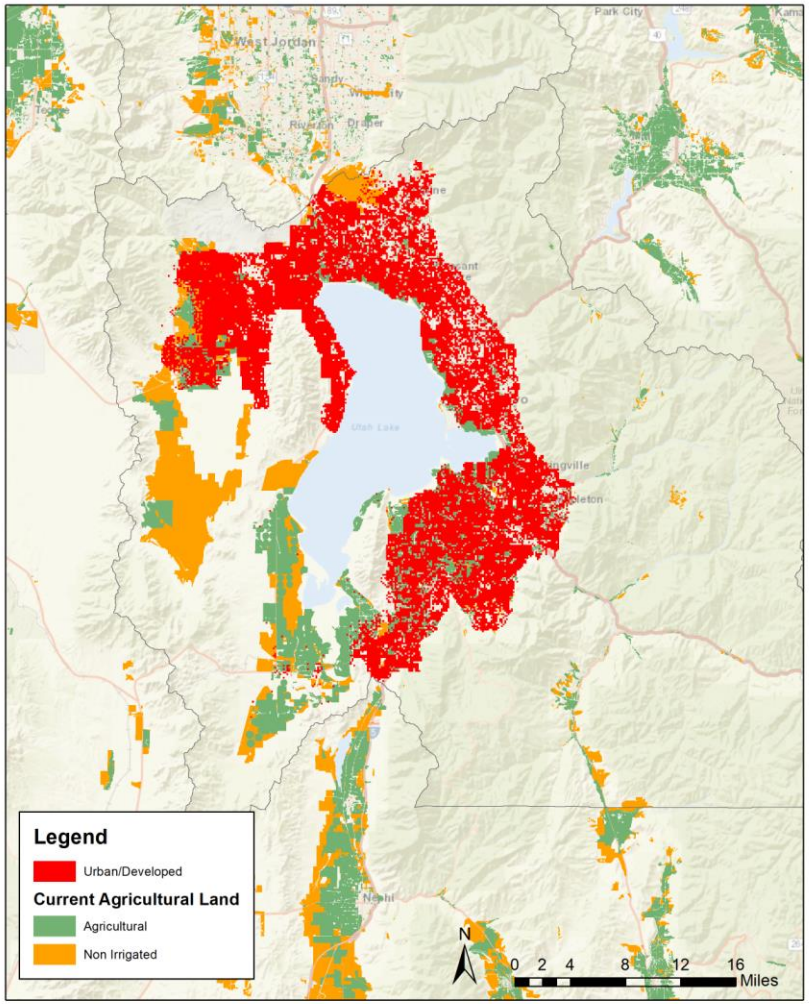
COMPLIANCE AND ENFORCEMENT SECTION

Municipal Wastewater

A survey of world physicians found sanitary sewer systems to be the most important public health advancement since 1840.

Growth

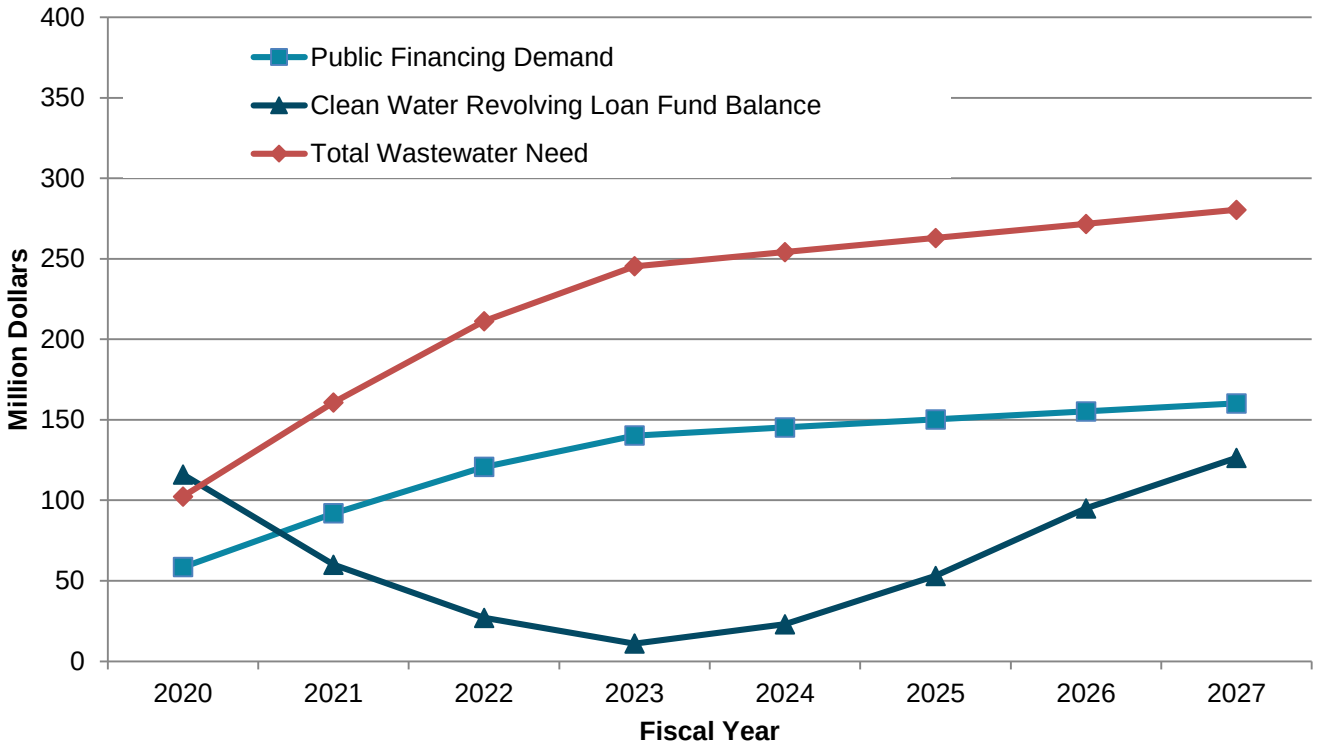
Projected (2050) Land Use



Wastewater and Storm Water Infrastructure

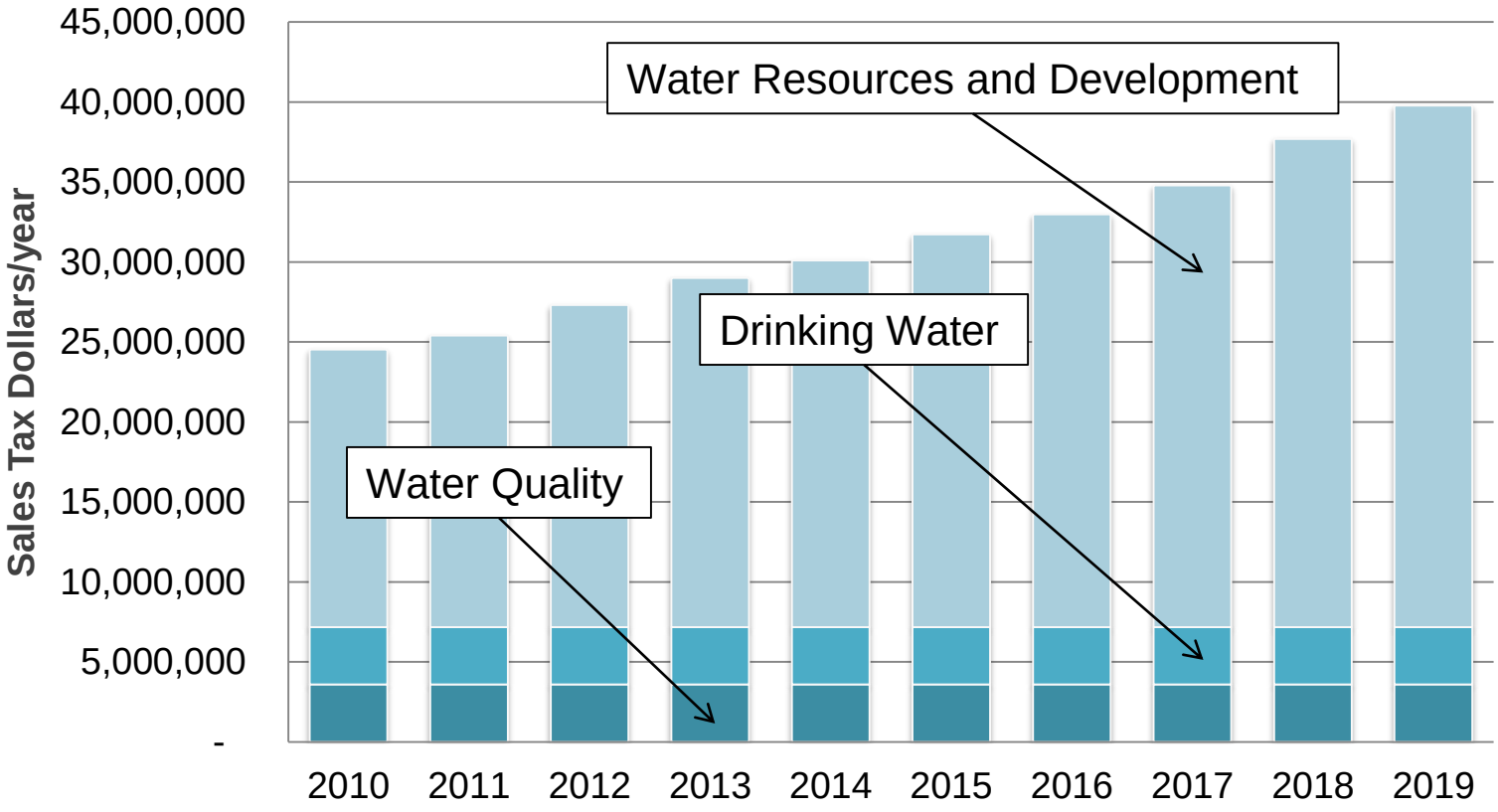
$15 billion by 2060

$2.7 billion by 2030



More details at Reclaim60.org

State Water Infrastructure Investment



Legislative request: Consider all water infrastructure needs in planning for growth.

Clean Water and Agriculture are Critical to Utah's Future

NEW: Agricultural Voluntary Incentive Program (AgVIP)

Goal: Incentivize agricultural producers to voluntarily adopt practices in targeted watersheds that add value to their operations while improving water quality.

Target: Increase nutrient management plan adoption from 1% of Utah's agricultural acres to at least 10% (100,000 acres).

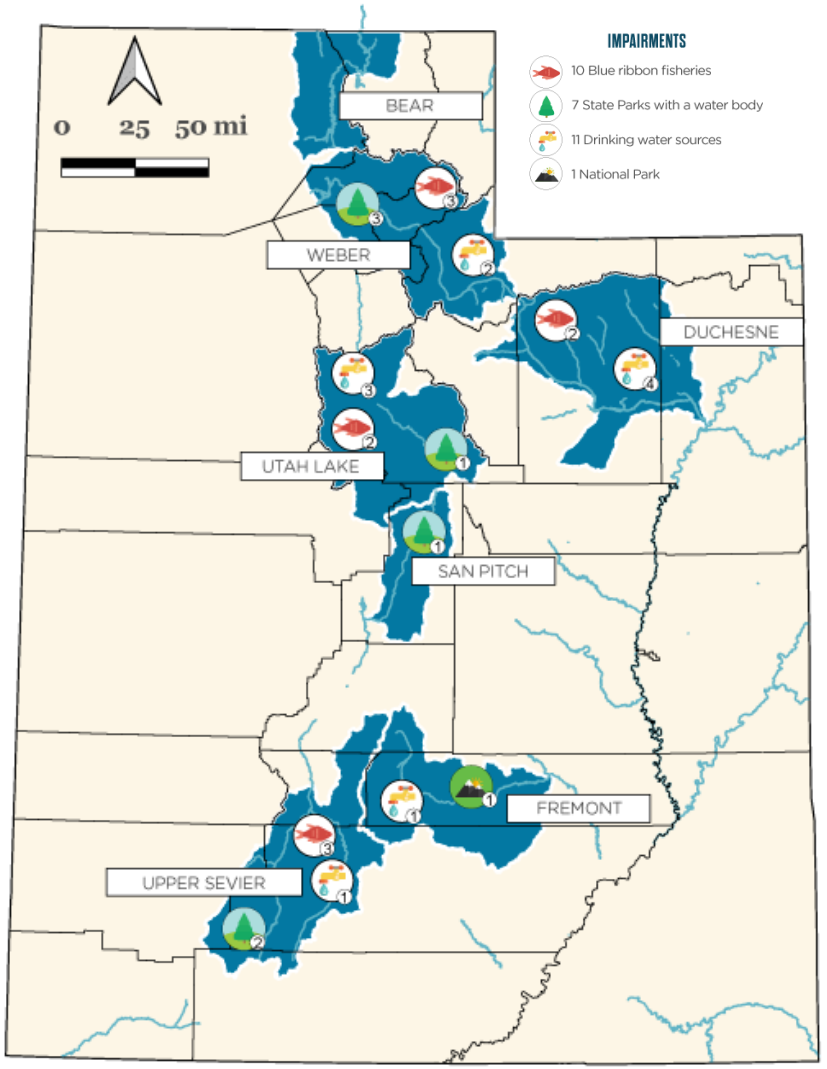
Agricultural Voluntary Incentive Program

5

ELEMENTS OF AGRICULTURAL INCENTIVE FINANCING

1. Nutrient Management Plans maximize returns on farms while protecting water resources.
2. $12/acre direct payment to Utah agricultural producers plus $1,000 one-time payment.
3. Paired with building the technical capacity at state-level agencies.
4. Enforcement relief for participants in the program (AFO/CAFO rulemaking closes on Feb. 5).
5. Leverages partner investment in agricultural water infrastructure grants to targeted watersheds and priority pollutants (4:1 leverage).

Targeted Watersheds for Implementation



2020 Pilot Project

- $1 million one-time federal grant
- 32 operations enrolled
  - 4 targeted watersheds
  - 17 adjacent to surface water
  - 6 source protection areas
  - Resulted in 10 new applications to federal programs
- 10 operations interested in 2021 program

Division Funding

Fee increases

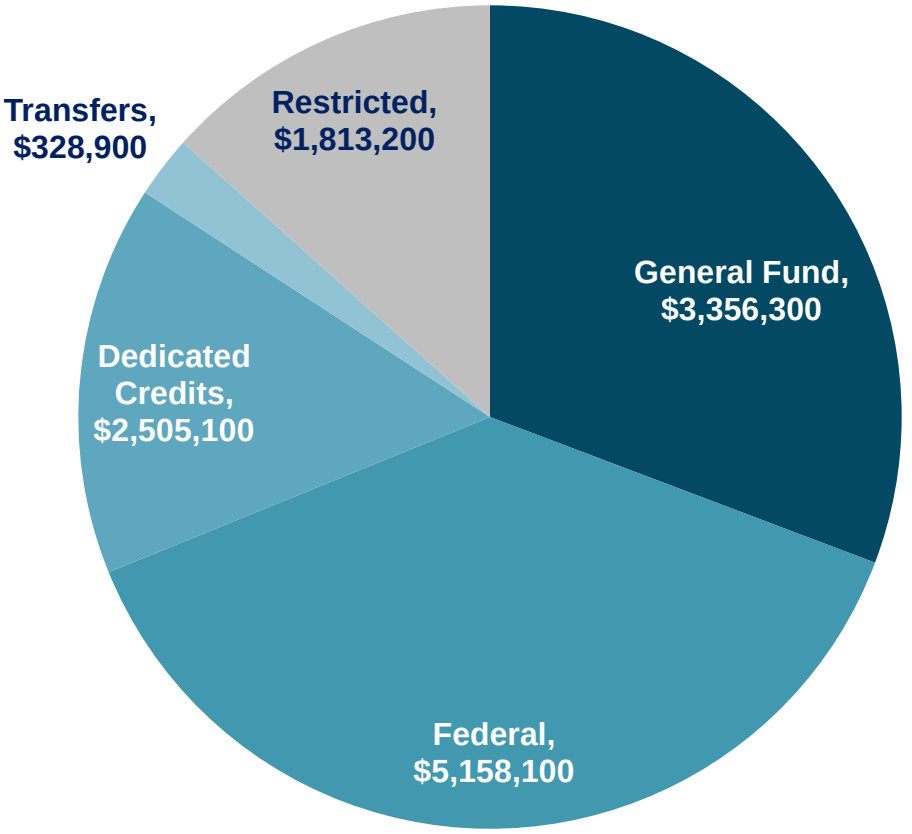
- Operator Certification
- Underground Wastewater Disposal System

Non-lapsing balances

- Independent Scientific Review
- Utah Lake Water Quality Study
- Inland Port Monitoring

Reallocation of base budgets

- Creation of Compliance and Enforcement section following legislative audit
- Transition to more seasonal monitoring staff



FY 2021: $13,388,800

2020 Performance metrics

WATER QUALITY OUTCOME METRICS

IMPAIRED WATERS
Results: **42%**
Target: **<25%**

MUNICIPAL WASTEWATER EFFLUENT QUALITY (oxygen consumption potential)
Results: **479 mg/L**
Target: **331 mg/L by 2025**

ACRES ENROLLED IN NUTRIENT MANAGEMENT PLANS
Results: **19,686**
Target: **100,000**

REGULATORY METRICS

ON-TIME PERMIT RENEWAL
Results: **95%**
Target: **98%**

PERMITS IN COMPLIANCE
Results: **86%**
Target: **85%**

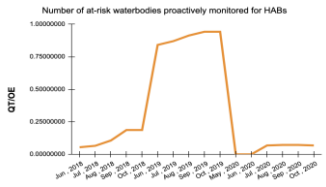
ENFORCEMENT (decision within 7 days)
Results: **87%**
Target: **80%**

WATER QUALITY SUPPORT METRICS

DWQ PRIORITY PROJECTS ON TRACK
Results: **81%**
Target: **90%**

INVESTMENT IN WATER QUALITY INFRASTRUCTURE
Results: **$62 million**
Target: **$65 million**

HARMFUL ALGAL BLOOM MONITORING



Harmful Algal Blooms

High concentrations of cyanobacteria that may produce toxins

2020 Building Block Request: $200,000 ongoing for monitoring and advisory program

Harmful Algal Bloom Management

Prevention

- Root causes
- Utah Lake Study

Mitigation

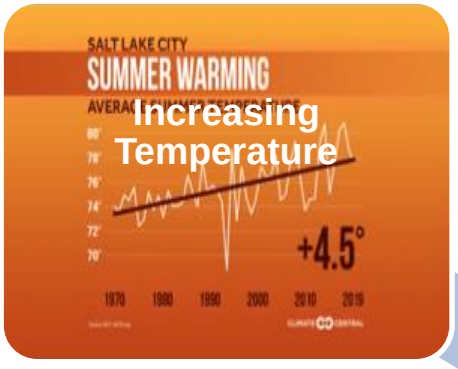
- Health advisories
- Education

Treatment

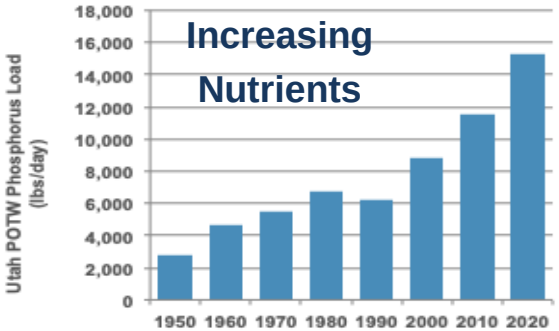
- Algaecides
- Harvesting

Monitoring
($200,000 Building Block Request)

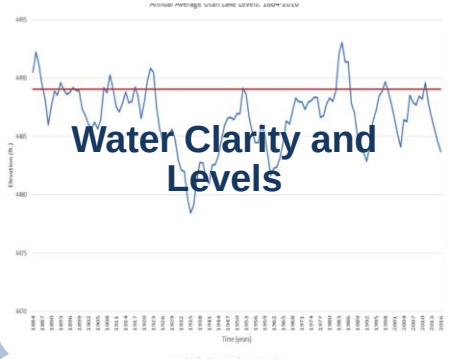
Factors Contributing to Algal Blooms



Increasing Temperature



Increasing Nutrients



Water Clarity and Levels

Harmful Algal Blooms

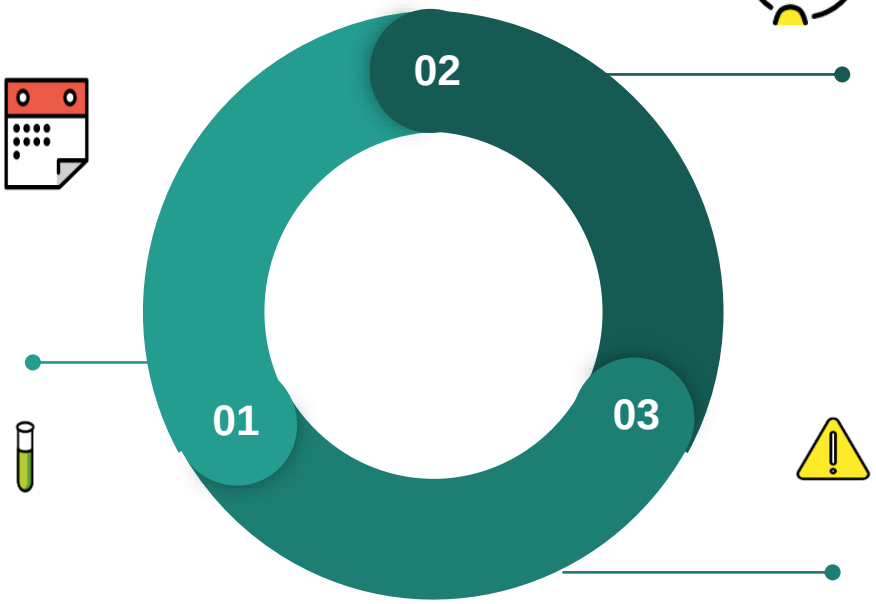
DWQ HAB Advisory Process

Monitoring

Routine
Monitor prioritized lakes on a monthly basis

Response
Monitor lakes on advisory on a weekly basis

Data Collected
Microcystin and Anatoxin-a
Cell Count (Taxonomy)



Detection

Inform LHD
Present data collected along with DWQ recommendation. Assist in answering site specific questions.

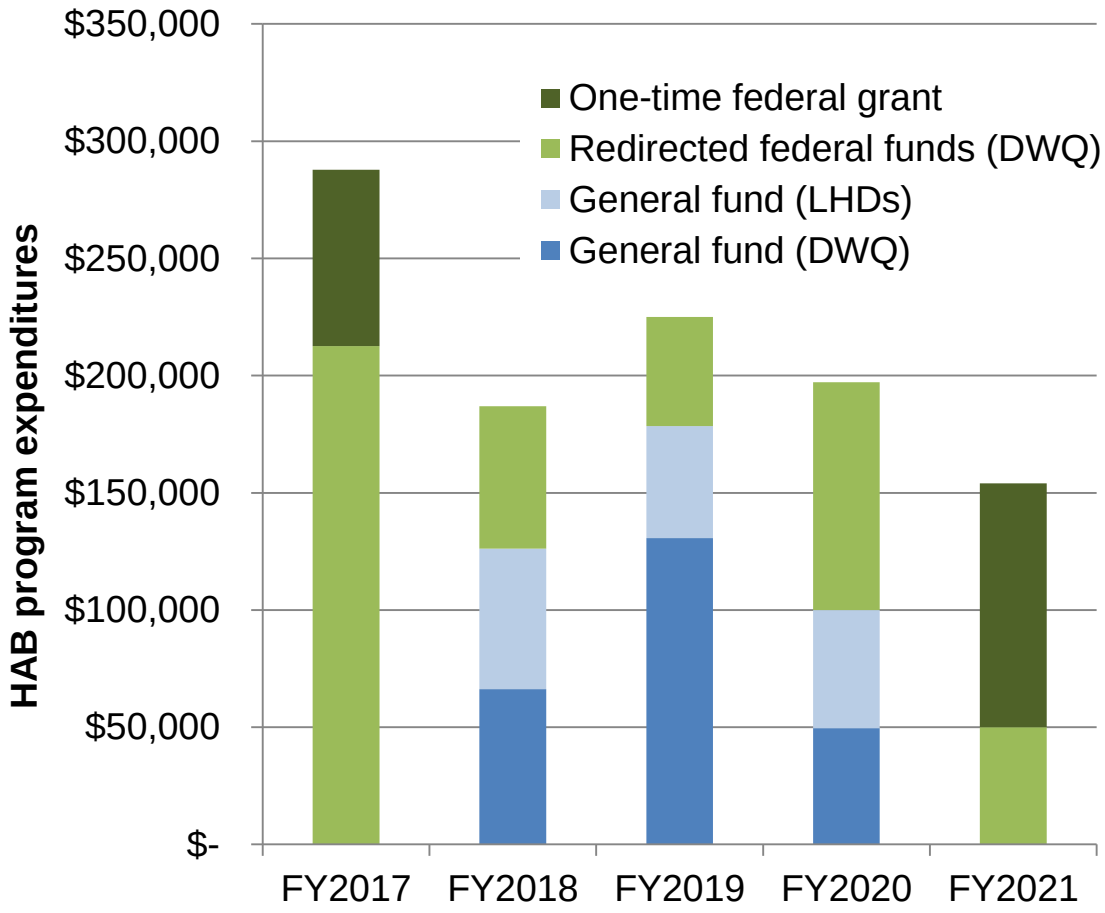
Communication
Phone call with all stakeholders (i.e. DNR, USFS, etc.) for site specific context

Advisory

Signs
Work with LHD and partners to post signs, make sure signs get posted

Communication
Alert stakeholders to advisory decision. Post information, maps, and narrative about advisory on habs.utah.gov

HAB program funding history



General Fund Building Blocks

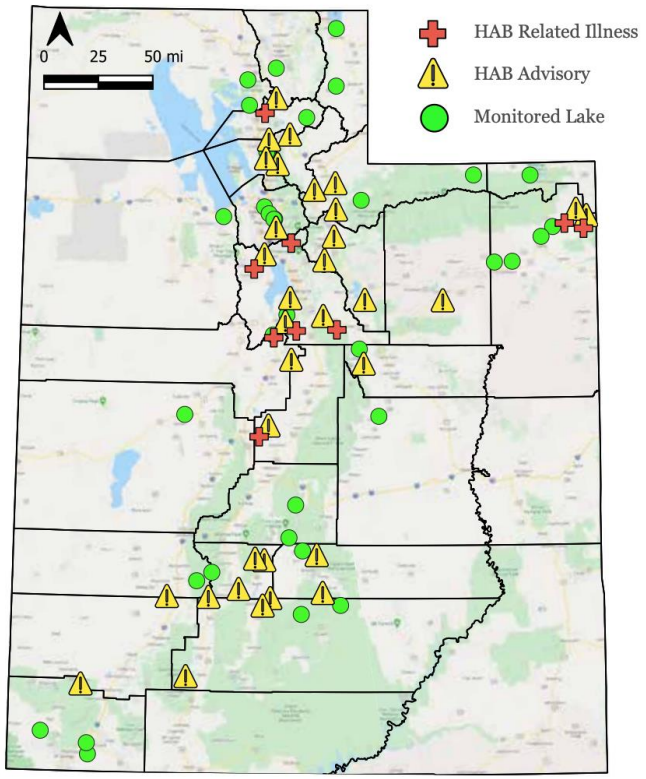
FY18 (supplemental): $126,000
FY19 (one-time): $178,500
FY20 (ongoing): $200,000
FY20 (supplemental): $-100,000
FY21: $0

Funded Activities

Monitoring of 60+ waterbodies
More frequent sampling
LHD Advisory Process

2020 Reduced Program Activities

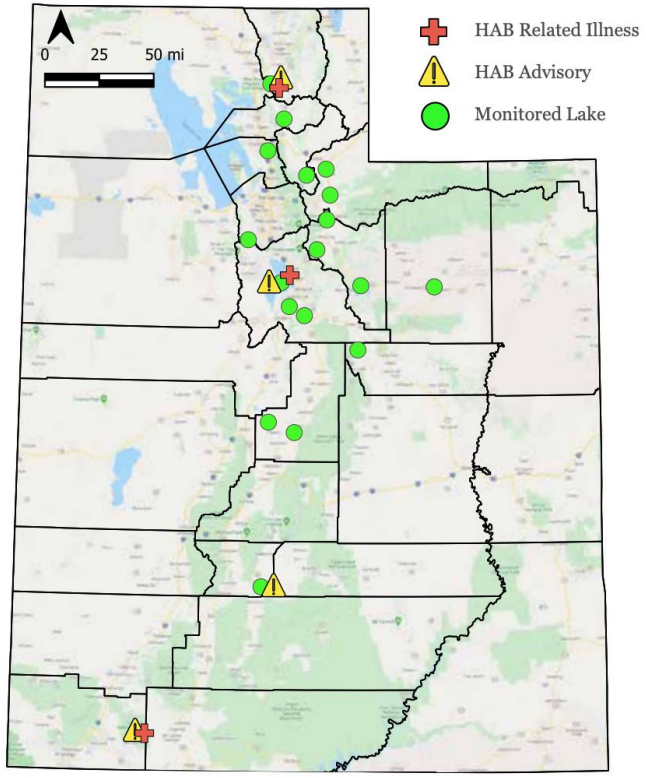
UTAH HARMFUL ALGAL BLOOM PROGRAM 2017-19



2017 - 2019

Water bodies monitored: 65
Water bodies with advisories: 35
HAB related illnesses: 40

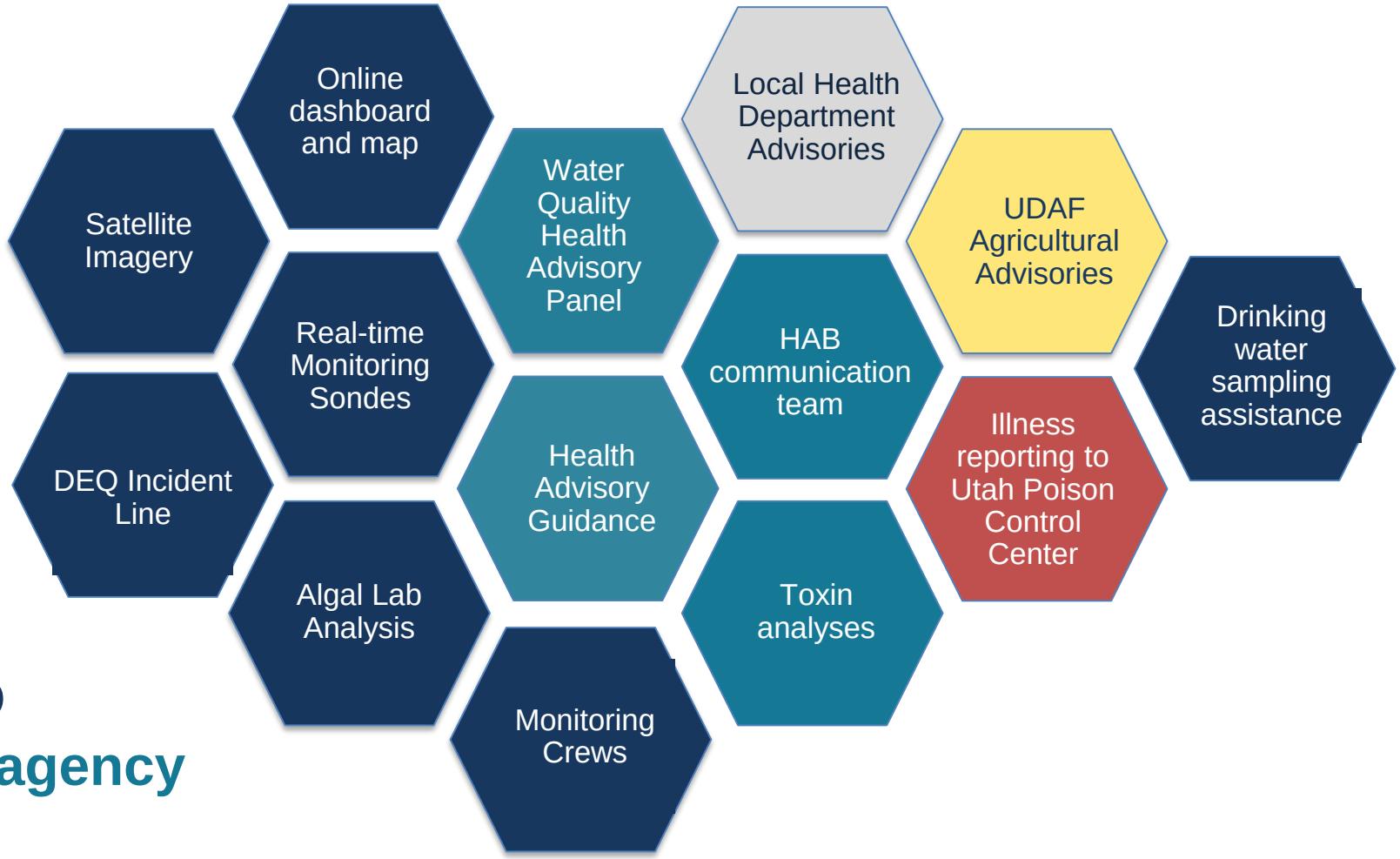
UTAH HARMFUL ALGAL BLOOM PROGRAM 2020



2020

Water bodies monitored: 18
Water bodies with advisories: 4
HAB related illnesses: 43

HAB Advisory Program Elements



UDEQ

Multi-agency

Water Quality Health Advisory Panel

Established in 2016

Coordinate and communicate on water quality issues associated with public health

And……other experts and stakeholders

Utah Lake Algal Treatment Demos

2020 Experimental Treatments

3 marinas treated by 2 different companies using several algaecides
$2,500 - $5,000/acre on 57 acres treated of Utah Lake's 90,000
HAB advisories on all 3 treated marinas

- Toxins measured in marinas exceed health thresholds by 3 – 10x within 1-7 days of treatment

Next Steps

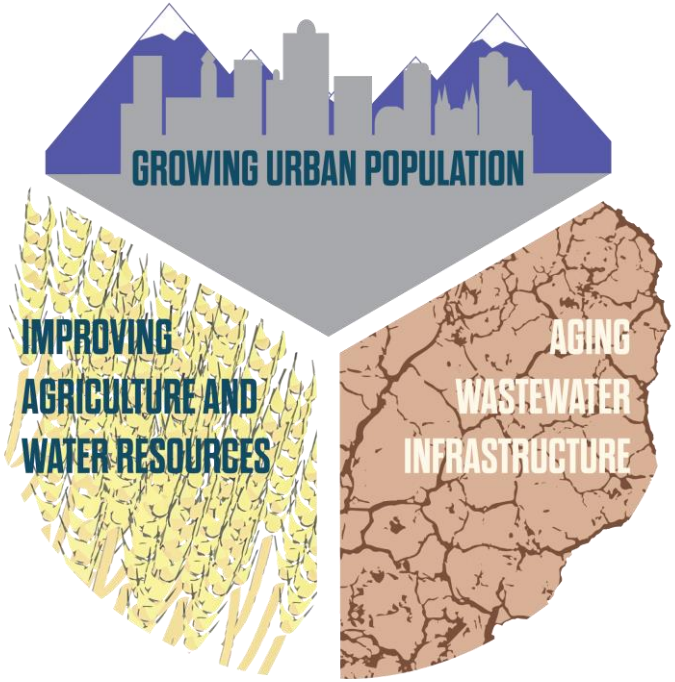
Working closely with Utah Lake Commission, DNR, and LHDs to determine most appropriate application

- Treatment may be most cost-effective at targeted locations or for specific events

DWQ issuance of federal pesticide permit for algaecides
Utah Lake Water Quality Study will include comprehensive recommendations on long-term solutions

Algal Bloom Peak - July 28, 2020 to Aug 11, 2020

Conclusion



Regulatory
Standards
Permits
TMDLs

Market Based
Polluter Pay
Water Quality Trading
Nutrient Recovery

Incentive Based
Nonpoint Source Funding
Wastewater and Storm
Water financing
Adaptive Management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